MARKED-UP VERSION OF AMENDED TITLE PAGE

PROCESS FOR PRODUCING SEMICONDUCTOR ARTICLE USING GRADED E[X]PITAXIAL GROWTH

MARKED-UP VERSION OF AMENDED TITLE AND PARAGRAPH OF SPECIFICATION

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PROCESS FOR PRODUCING SEMICONDUCTOR ARTICLE USING GRADED E[X]PITAXIAL GROWTH

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This application is a divisional of application Serial No. 09/928,126, filed on August 10, 2001, which claims priority from provisional application Ser[.]ial No. 60/225,666, filed August 16, 2000, now expired, the entire disclosures of which are incorporated by reference herein.

MARKED-UP VERSION OF AMENDED CLAIMS

41. (Amended) A [process of]method for forming a semiconductor layer, the method comprising:

forming a first heterostructure by:

[depositing]forming a graded $Si_{1-x}Ge_x$ buffer layer on a first substrate, [said] the graded $Si_{1-x}Ge_x$ buffer layer having a Ge concentration x [being]increas[ed]ing from zero to a value y;

[depositing]forming a relaxed $Si_{1-y}Ge_y$ layer on the graded $Si_{1-x}Ge_x$ buffer layer;

[depositing]forming a [strained or defect]separation layer on the relaxed $Si_{1-y}Ge_y$ layer; and

[depositing]forming a second relaxed layer over the separation layer;

[introducing ions into said strained or defect layer to define a first heterostructure;]

bonding [said]the first heterostructure to a second substrate to define a second heterostructure; and

splitting [said]the second heterostructure [in the region of]along the [strained or defect] separation layer,

wherein [said]the second relaxed layer remains on [said]the second substrate after the second heterostructure is split.

42. (Amended) The [process]method of claim [41]56, wherein [said]the strained [or defect]layer comprises [either]at least one of [a strained]$Si_{1-z}Ge_z$[layer] with $z \neq y$[, or other] and a III-V material.

43. (Amended) The [process]method of claim 41, wherein at least one of [said]the relaxed layer [or]and [said]the [strained or defect] separation layer comprises at least one material selected from the group consisting of [either a relaxed]$Si_{1-w}Ge_w$, [layer where w is close or equal to y, or, when y is equal to 1, one of] Ge, GaAs, A1As, ZnSe and InGaP.